



An Introduction to:

3D Scanning

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An Overview

- 1 What is it?**
- 2 How Does it Work?**
- 3 The Benefits**
- 4 Applications**

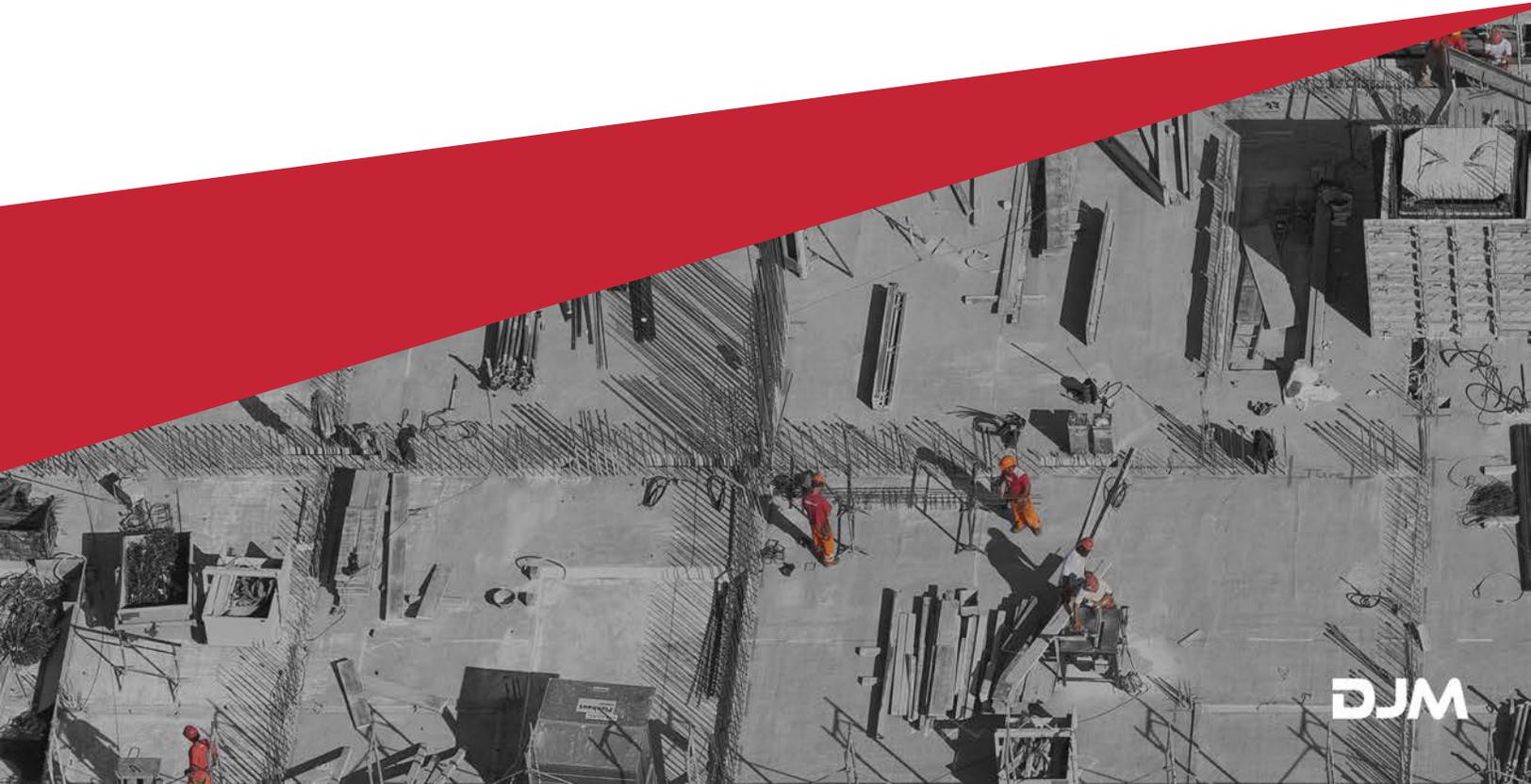
1 What is it?

Exact Site Conditions Without Touching a Tape Measure

3D Scanning is a way for construction stake holder to avoid costly trade clashes and project delays.

3D scanning holds the potential to revolutionize the job site by increasing productivity and accuracy. 3D scanning provides high-resolution site imagery to view as-built or new build environments in a virtual world.

Whether your industry is Engineering, Building, Construction, Architecture, Industrial, Civil, Manufacturing, or Public Safety, incorporating 3D scanning into your project management improves your project's bottom line, provides real data imagery to share between field and office while bettering project team collaborations through well-informed decisions.



2 How Does it Work?

Capture the Precise X,Y, and Z Coordinates of Complex Landscapes

Construction 3D scanners are made up of two main components, an adjustable tripod, and a laser mounted to the top. By shooting out a non-harmful beam from the mounted laser and rotating 360° at high speed, the laser collects the exact X, Y, and Z coordinates of objects and surfaces relative to the scanner.

This information is then stored as a “point.” The scanner picks up millions of these points each minute to create an exact digital representation of the room, commonly referred to as a point cloud. This point cloud creates an exact digital model of the space with no room for human error.

- The mounted laser scanner spins on the tripod to capture 360-degrees on the X axis while the laser spins 360 degrees on the Y axis, enabling it to capture objects and measurements on X, Y, and Z.



3 The Benefits

Save Time and Money On Site Verification



Cost

3D Scanning reduces the cost required for site verification in some cases by 75%. Construction stakeholders are able to eliminate man-hours and additional expenses in equipment rentals, trade materials, and project delays caused by inaccurate site data.



Time

Because of its ability to rotate 360 degrees in both X and Y, 3D scanners can capture millions of data points in a matter of seconds and do in a day what would take a team of two to six men a week to complete. By eliminating human error and getting rid of outdated tools like tape measures, your team is able to meet project deadlines.



Accuracy

With exact site conditions down to the millimeter, trade teams can make coordinated and accurate construction project plans avoiding costly work order changers and project delays.

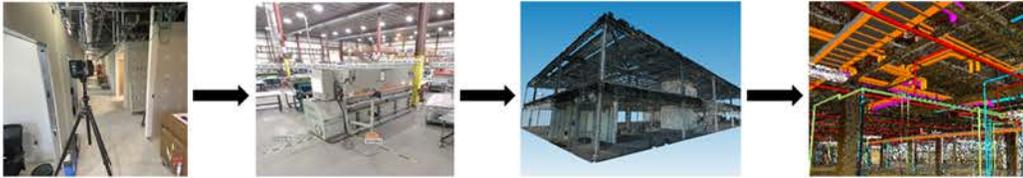
Job Site Task	Estimated Hours to Complete Measuring	Labor Costs 75% savings
3D Scan Service (1 Scan Tech)	4 Hours	\$750.00 On-site Labor Only
Manual Field Verification (2 Laborers to measure)	24 Hours (Three 8-Hour Days)	\$2,909.00* On-site Labor Only

* NY Prevailing Wage, 2018 General Laborer's Hourly Rate \$60.61 each., Retrieved from: URL: labor.ny.gov

■ In this estimation from a NYC building, 3D Scanning could save the project over \$2K.

4 Applications

Use the 3D Scan Across The Construction Lifecycle



- The 3D Scan can be used to create a virtual model of the construction site to clash detect and coordinate trades.

Virtual Coordination

In today's era of remote work and multi-site companies, it's likely that members of your project team are spread out across the country. By creating a virtual tour with the 3D scan, teams can measure and coordinate project plans with ease, no matter where they are.

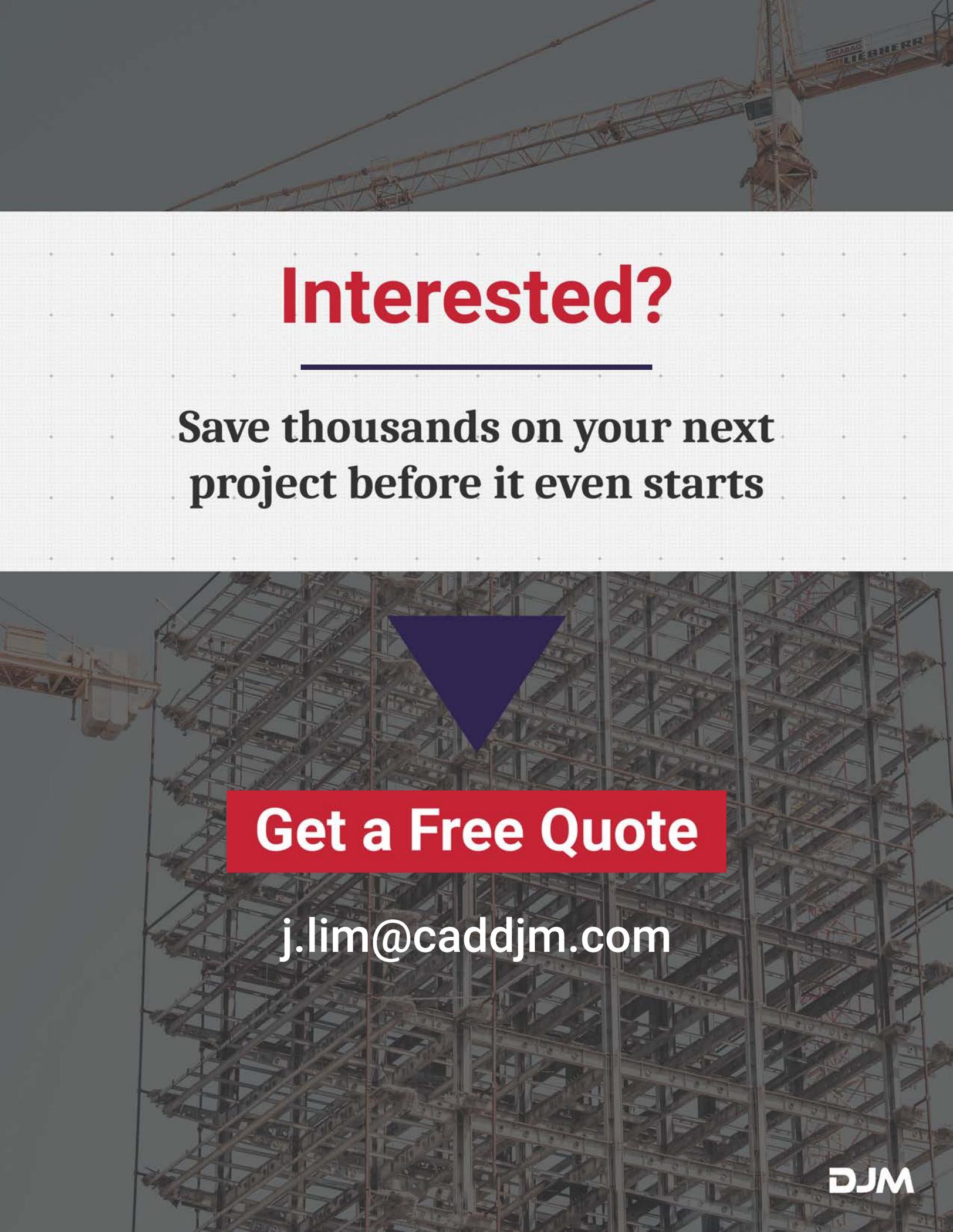
Clash Detection

The point cloud provided by the 3D scans can be layered over top of CAD or BIM models to spot clashes in trade plans, prevent costly work order changes and eliminate project delays.

Measurement

The information collected by the 3D scanner is exact down to the millimeter with no room for human error. Trade teams can use this to measure ceilings, walls, elevations, beams and more.





Interested?

Save thousands on your next project before it even starts



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